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TRANSMITTAL FORM

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Application No.	10/022,151
Filing Date	December 14, 2001
First Named Inventor	Xiaochun Nie
Art Unit	2173
Examiner Name	Zhou, Ting

Total Number of Pages in This Submission	34	Attorney Docket Number	4860P2643

ENCLOSURES   *(check all that apply)*

☒ Fee Transmittal Form

   ☒ Fee Attached

☐ Amendment / Response

   ☐ After Final

   ☐ Affidavits/declaration(s)

☐ Extension of Time Request

☐ Express Abandonment Request

☐ Information Disclosure Statement

   ☐ PTO/SB/08

☐ Certified Copy of Priority Document(s)

☐ Response to Missing Parts/ Incomplete Application

   ☐ Basic Filing Fee

   ☐ Declaration/POA

   ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Drawing(s)

☐ Licensing-related Papers

☐ Petition

☐ Petition to Convert a Provisional Application

☐ Power of Attorney, Revocation Change of Correspondence Address

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   ☐ Landscape Table on CD

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☐ After Allowance Communication to TC

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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Signature	*[signature]*
Date	7/17/2006

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FEE TRANSMITTAL
for FY 2005
Patent fees are subject to annual revision.

Complete if Known	
Application Number	10/022,151
Filing Date	December 14, 2001
First Named Inventor	Xiaochun Nie
Examiner Name	Zhou, Ting
Art Unit	2173
Attorney Docket No.	4860P2643

☐ Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT	($)	500.00

METHOD OF PAYMENT *(check all that apply)*

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FEE CALCULATION

1. EXTRA CLAIM FEES

			Extra Claims		Fee from below		Fee Paid
Total Claims	60	- 60* =	0	x	50.00	=	$0.00
Independent Claims	5	- 5* =	0	x	200.00	=	$0.00
Multiple Dependent						=	

Large Entity		Small Entity		Fee Description
Fee Code	Fee ($)	Fee Code	Fee ($)	
1202	50	2202	25	Claims in excess of 20
1201	200	2201	100	Independent claims in excess of 3
1203	360	2203	180	Multiple Dependent claim, if not paid
1204	790	2204	395	**Reissue independent claims over original patent
1205	300	2205	150	**Reissue claims in excess of 20 and over original patent

**or number previously paid, if greater, For Reissues, see below

SUBTOTAL (1)   ($) 0.00

2. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee ($)	Fee Code	Fee ($)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
2053	130	2053	130	Non-English specification	
1251	120	2251	60	Extension for reply within first month	
1252	450	2252	225	Extension for reply within second month	
1253	1,020	2253	510	Extension for reply within third month	
1254	1,590	2254	795	Extension for reply within fourth month	
1255	2,160	2255	1,080	Extension for reply within fifth month	
1401	500	2401	250	Notice of Appeal	
1402	500	2402	250	Filing a brief in support of an appeal	500.00
1403	1,000	2403	500	Request for oral hearing	
1451	1,510	2451	1,510	Petition to institute a public use proceeding	
1460	130	2460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
1809	790	1809	395	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))	

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SUBMITTED BY

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Complete (if applicable)

Attorney's Docket No.: 4860P2643   <u>Patent</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:	)	
	)	
Xiaochun Nie, et al.	)	Examiner: Zhou, Ting
	)	
Application No: 10/022,151	)	Art Unit: 2173
	)	
Filed: December 14, 2001	)	Confirmation No.: 4041
	)	
For: SYSTEM AND METHOD FOR	)	
INTEGRATING MEDIA OBJECTS	)	
———————————————————	)	

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<u>APPEAL BRIEF UNDER 37 C.F.R. § 41.37(a)</u>

This is an appeal to the Board of Patent Appeals and Interferences from the decision of

the Examiner of Group 2173, dated February 17, 2006, which finally rejected claims 1-8, 10-16,

18-35, 37-59, and 61-64 in the above-identified application. This Appeal Brief is hereby

submitted pursuant to 37 C.F.R. § 41.37(a).

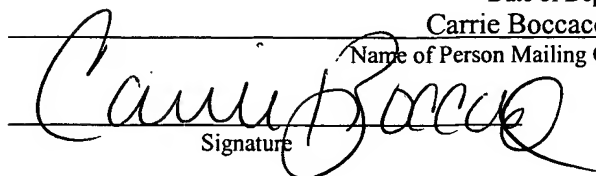### FIRST-CLASS CERTIFICATE OF MAILING

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<u>7/17/2006</u>
Date

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the full interest in the invention, Apple Computer, Inc., 1 Infinite Loop, Cupertino, California, 95014.

II. RELATED APPEALS AND INTERFERENCES

To the best of the Appellant's knowledge, there are no appeals or interferences related to the present appeal that will directly affect, be directly affected by, or have a bearing on the Board's decision in the instant appeal.

III. STATUS OF CLAIMS

Claims 1-8, 10-16, 18-35, 37-59, and 61-64 are pending in the application and were finally rejected in an Office Action mailed February 17, 2006 and as noted in an Advisory Action Before the Filing of an Appeal Brief mailed on June 5, 2006. Claims 1-8, 10-16, 18-35, 37-59, and 61-64 are the subject of this appeal. A copy of Claims 1-8, 10-16, 18-35, 37-59, and 61-64 as they stand on appeal are set forth in Appendix A.

IV. STATUS OF AMENDMENTS

Claim 1 was amended in an Amendment and Response to Final Office Action mailed on May 17, 2006. The amendment to claim 1 was entered as indicated in the Advisory Action Before the Filing of an Appeal Brief mailed on June 5, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The Appellant's invention as claimed in Claims 1-8, 10-16, 18-35, 37-59, and 61-64 is directed towards integrating media objects, e.g., 2D media objects and/or 3D enhanced 2D objects, into a virtual reality scene.

Independent claim 1 claims a method. The method includes processing a request to create a virtual reality scene. The scene is to be able to be translated and rotated. The method

also includes processing a request to add at least two media objects to the virtual reality scene, the processing including associating each media object with a series of views of the object from various orientations and locations in three dimensional space. The method further includes preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene. The method finally includes displaying the scene.[1]

Independent claim 23 claims a method of providing an application program interface. The method includes providing a first function to allow an application program to create a virtual reality scene. The scene is to be able to be translated and rotated. The method also includes providing a second function to allow the application program to add at least two media objects to the scene and to associate each media object with a series of views of the object from various orientations and locations in three dimensional space. The method further includes preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene upon receipt of a request to execute the second function.[2]

Independent claim 30 claims a system. The system includes means for processing a request to create a virtual reality scene. The scene is to be able to be translated and rotated. The system also includes means for processing a request to add at least two media objects to the scene, said processing including associating each media object with a series of views of the object from various orientations and locations in three dimensional space. The system further includes means for preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene. The system further includes means for displaying the scene.[3]

Dependent claim 31 claims the system of claim 30 further including means for receiving from a user a request to manipulate the scene.[4]

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[1] *See e.g.*, Figures 2, 5A-5C; Specification, p. 1, lines 11-13, 21-23, p. 5, lines 15-17, p. 6, lines 3-13, p. 6, line 25 to p. 7, line 12, p. 7, lines 21-31, p. 8, lines 17-19, 26-32, p. 9, lines 1-22, p. 9, line 24 to p. 10, line 26, p. 11, line 1-27.

[2] *See e.g.*, Specification, p. 1, lines 11-13, 21-23, p. 3, line 2-6, p. 5, lines 15-17, p. 6, lines 3-13, p. 6, line 25 to p. 7, line 5, p. 8, lines 17-19, 26-32, p. 9, lines 1-22, p. 9, line 24 to p. 10, line 26, p. 11, line 1-27.

[3] *See e.g.*, Figures 1, 2, 5A-5C; Specification, p. 1, lines 11-13, 21-23, p. 3, line 10 to p. 5, line 14, p. 5, lines 15-17, p. 6, lines 3-13, p. 6, lines 23-25, p. 6, line 25 to p. 7, line 12, p. 7, line 13-16, p. 7, lines 21-31, p. 8, lines 17-19, 26-32, p. 9, lines 1-22, p. 9, line 24 to p. 10, line 26, p. 11, line 1-27.

[4] *See e.g.*, Figure 1, p. 7, line 27 to p. 8, line 15, p. 11, line 30 to p. 12, line 4.

Dependent claim 37 claims the system of claim 30 wherein each media object further includes a soundtrack associated with each media object such that the soundtrack is to be played when the media object is selected by a user.[5]

Independent claim 42 claims a machine readable medium storing instructions which when executed by a processor cause the processor to perform operations. The operations include processing a request to create a virtual reality scene, wherein the scene is to be able to be translated and rotated. The operations also include processing a request to add at least two media objects to the scene, including associating each media object with a series of views of the object from various orientations and locations in three dimensional space. The operations further include preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene. The operations further include displaying the scene.[6]

Independent claim 53 claims a machine readable medium storing instructions which when executed by a processor cause the processor to perform operations including providing an application program interface. Providing the application program interface includes providing a first function to allow the application program to create a virtual reality scene, wherein the scene is able to be translated and rotated. Providing the application program interface also includes providing a second function to allow the application program to add at least two media objects to the scene and to associate each media object with a series of views of the object from various orientations and locations in three dimensional space. Providing the application program interface further includes preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene upon receipt of a request to execute the second function.[7]

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[5] *See e.g.*, Figure 1, p. 3, line 10 to p. 5, line 14, p. 5, lines 17-29.

[6] *See e.g.*, Figures 1, 2, 5A-5C; Specification, p. 1, lines 11-13, 21-23, p. 3, line 10 to p. 5, line 14, p. 5, lines 15-17, p. 6, lines 3-13, p. 6, lines 23-25, p. 6, line 25 to p. 7, line 12, p. 7, line 13-16, p. 7, lines 21-31, p. 8, lines 17-19, 26-32, p. 9, lines 1-22, p. 9, line 24 to p. 10, line 26, p. 11, line 1-27.

[7] *See e.g.*, Figures 1, 2, 5A-5C; Specification, p. 1, lines 11-13, 21-23, p. 3, line 2-6, p. 3, line 10 to p. 5, line 14, p. 5, lines 15-17, p. 6, lines 3-13, p. 6, lines 23-25, p. 6, line 25 to p. 7, line 12, p. 7, line 13-16, p. 7, lines 21-31, p. 8, lines 17-19, 26-32, p. 9, lines 1-22, p. 9, line 24 to p. 10, line 26, p. 11, line 1-27.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-8, 10-16, 20-35, 39-47, 50-59 and 63-64 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,081,262 (hereinafter, "Gill") and U.S. Patent 5,588,104 (hereinafter, "Lanier").

Claims 18-19, 37-38, and 48-49 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gill and Lanier, as applied to claims 1, 30 and 42, and further in view of U.S. Patent 5,724,106 (hereinafter "Autry").

Claims 61-62 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gill and Lanier, as applied to claim 53, and further in view of U.S. Patent 6,664,986 (hereinafter "Kopelman").

VII. ARGUMENT

The claims stand and fall separately as indicated and argued below. In particular, Claim 1 and certain other claims as indicated below in part VII.A stand together as one group separately from other groups, and Claims 2 and certain other claims indicated below in part VII.B stand together as one group separately from other groups, and Claims 10-16, as indicated below in part VII.C, stand together as one group separately from other groups, and Claims 18 and certain other claims indicated below in part VII.D stand together as one group separately from other groups, and Claims 61-64, as indicated below in part VII.E, stand together as one group separately from the other groups.

A.   Claims 1, 22, 23-24, 30, 41, 42, 52, and 53-54 are each patentable under 35 U.S.C. 103(a) over Gill and Lanier because claims are not obvious in view of prior art references when there is no suggestion or motivation to combine the references because the combination changes the principle of operation of the primary reference and renders the reference inoperable for its intended purpose.

Claim 1 is a representative claim. The Examiner rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over Gill and Lanier. Claim 1 claims:

1.   A method comprising:

processing a request to create a virtual reality scene, wherein the scene is to be able to be translated and rotated;

processing a request to add at least two media objects to the virtual reality scene, said processing including associating each media object with a series of views of the object from various orientations and locations in three dimensional space;

preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene; and

displaying the scene.

Section 2145.III of the Manual of Patent Examining Procedure (MPEP) recites:

"The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)....

However, the claimed combination **cannot** change the principle of operation of the primary reference **or** render the reference inoperable for its intended purpose. See MPEP § 2143.01.[8]

In rejecting claim 1, the Examiner cited the first paragraph above reciting the language from *In re Keller* and maintained that "the combination of Gill and Lanier teaches the subject limitations."[9] However, the Examiner completely ignored the requirement stated in the second paragraph that the "combination **cannot** change the principle of operation of the primary reference **or** render the reference inoperable for its intended purpose"[10].

The MPEP 2143 states:

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must

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[8] Manual of Patent Examining Procedure [herein after "MPEP"] 2145.III (8th ed., rev. 4, October 2005) (emphasis added).

[9] Advisory Action Before the Filing of an Appeal Brief [hereinafter "Advisory Action"] at 2 (June 5, 2006).

[10] MPEP 2145.III (emphasis added).

be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[11]

The MPEP 2143.01 states that the "fact that references <u>can be combined or modified</u> is **not sufficient** to establish prima facie obviousness." [12] The MPEP 2143.01 states, "If proposed modification would <u>render the prior art</u> invention <u>being modified unsatisfactory for its intended purpose, then there is **no** suggestion or motivation</u> to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)"[13]. The MPEP 2143.01 further states, "If the proposed modification or combination of the prior art would <u>change the principle of operation</u> of the prior art invention being modified, then the teachings of the references are **not sufficient** to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)"[14].

Claim 1 is patentable under 35 U.S.C. 103(a) over Gill and Lanier because there is no suggestion or motivation to combine the references because the combination both changes the principle of operation of the primary reference and renders the reference inoperable for its intended purpose. Specifically, the suggested combination of Gill and Lanier requires a substantial reconstruction and redesign of the elements shown in Gill as well as a change in the basic principle under which Gill was designed to operate. The proposed modification also renders Gill being modified unsatisfactory for its intended purpose.

In Gill, the "multi-media presentation generation system uses <u>a page based print document layout paradigm</u> to regulate the spatial relationships among the plurality of objects contained within the multi-media presentation."[15] Gill provides an example of a page based document layout system – QuarkXPress.[16] Gill describes:

> The underlying page based document layout system...functions to <u>partition document pages</u>...into a plurality of objects (also termed boxes), each of which is independently editable by the author. The page based document layout system coordinates and manages the inputting of data into the plurality of objects and

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[11] MPEP 2143 (emphasis added).

[12] MPEP 2143.01.IV (emphasis added).

[13] MPEP 2143.01.V (emphasis added).

[14] MPEP 2143.01.VI (emphasis added).

[15] Gill, col. 3, lines 20-24.

[16] *See* Gill, col. 3, line 36.

ensures that the populated objects are integrated into the final <u>document page</u> <u>layout</u>.[17]

Fig. 2 of Gill (reproduced below) shows a page layout created using the system of Gill.
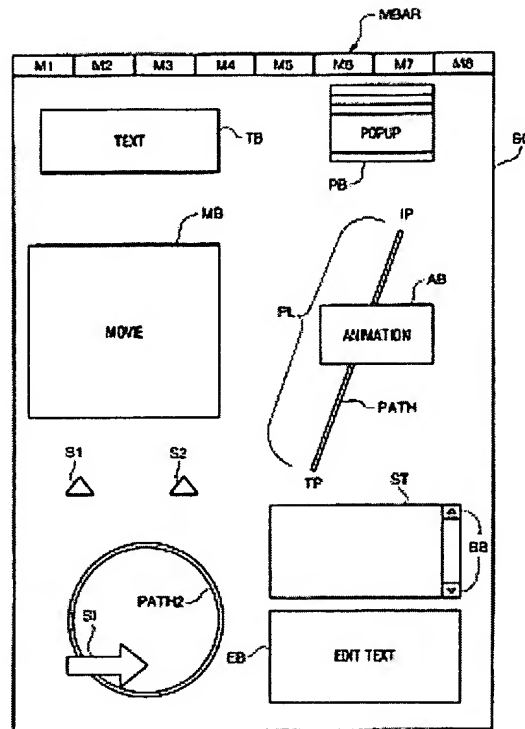

FIG. 2

Gill describes: "This system operates…<u>based on a desktop publishing environment</u>. There is also <u>no need for programming expertise</u> to author multi-media presentations. This system <u>does not require the author to work on logical and visual abstractions</u> of both objects and the viewable screens on which they appear."[18]

To specifically distinguish from previous systems, Gill describes: "none of these [previous] systems are built upon a page based print document layout system paradigm….These [previous] systems <u>require the author to work in unfamiliar environments, in that they are unlike print based authoring systems and tend to be programmatically complex</u>."[19]

The Examiner rejected claim 1 stating, "Gill fails to explicitly teach the created scene is a virtual reality scene, and the processing including associating each media object with a series of

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[17] Gill, col. 6, lines 23-30 (emphasis added).

[18] Gill, col. 4, lines 44-50 (emphasis added).

[19] Gill, col. 2, lines 56-64 (emphasis added).

views of the object from various orientations and locations in three-dimensional space."[20] The Examiner asserted, "It would have been obvious to one of ordinary skill in the art, having the teachings of Gill and Lanier before him at the time the invention was made, to modify the method for creating a scene from a plurality of media objects of Gill to include the creation of a virtual reality scene in three-dimensional space taught by Lanier."[21]

However, modifying Gill's "familiar" print based authoring system to create a virtual reality scene as described by Lanier, into which Gill's objects are then integrated, requires a change in the basic principle of a desktop publishing environment under which Gill was designed to operate.

According to Lanier, to create a virtual world, "a complete description of all virtual objects in the virtual world, including their constraints of motion, hierarchy, color, texture and other attributes must be made and entered into the virtual reality computer."[22]

In Lanier, "To create a description of the contents and behavior of a virtual world, the user combines available input, function and output units into a network of interconnected units."[23] Lanier describes: "a computer display attached to a specially programmed digital computer displays two different graphs; the first is a hierarchically defined set of points that make up an object or a set of objects in terms of their relative positions. The second graph is a data flow network represented as a plurality of interconnected units."[24] Describing Fig. 1, Lanier states: "The window in the upper right-hand corner shows a point in the tree hierarchy and its orientation, while the lower right-hand corner illustrates a data flow network with multiple input, function and output units."[25] Fig. 1 of Lanier is reproduced below.

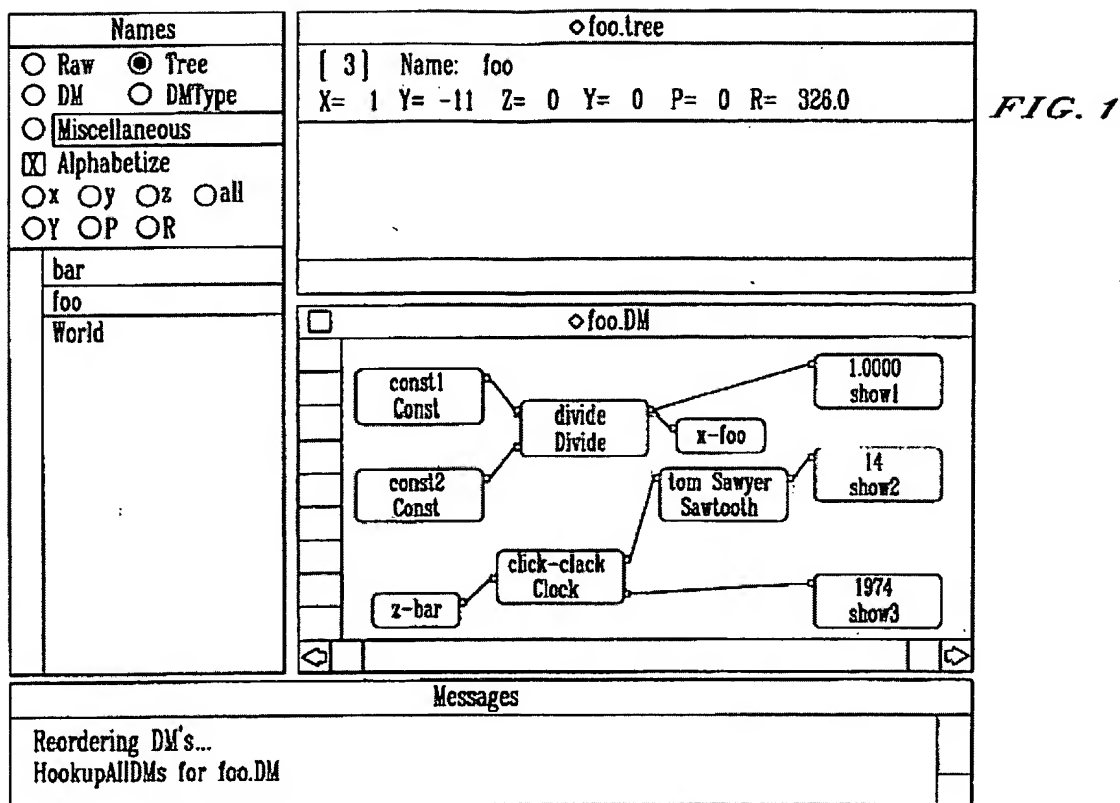[20] Final Office Action at 3 (February 17, 2006).

[21] Final Office Action at 3-4 (February 17, 2006).

[22] Lanier, col. 1, lines 22-26.

[23] Lanier, col. 4, lines 1-3 (emphasis added).

[24] Lanier, col. 2, lines 40-46 (emphasis added).

[25] Lanier, col. 1, line 66 – col. 2, line 8.

Names	◇foo.tree
○ Raw ◉ Tree	[3] Name: foo
○ DM ○ DMType	X= 1 Y= -11 Z= 0 Y= 0 P= 0 R= 326.0
○ Miscellaneous	
[X] Alphabetize	
○x ○y ○z ○all	
○Y ○P ○R	

FIG. 1

bar
foo
World

◇foo.DM

const1 Const

const2 Const

divide Divide

x-foo

1.0000 show1

tom Sawyer Sawtooth

14 show2

click-clack Clock

z-bar

1974 show3

Messages

Reordering DM's...
HookupAllDMs for foo.DM

Accordingly, to modify Gill to create the virtual world of Lanier, into which the media objects of Gill are then integrated, requires a change in the basic desktop publishing environment of Gill and substantial reconstruction and redesign of the elements of Gill. The user would have to work in an unfamiliar environment, an environment unlike print based authoring systems. The user also would have to work with logical and visual abstractions to create a data flow network to create a description of the contents and behavior of the virtual world. The proposed modification would render Gill being modified unsatisfactory for its intended purposes.

Therefore, the Examiner failed to establish a *prima facie* case of obviousness because at least the first basic criterion of "some suggestion or motivation...to modify the reference or to combine reference teachings"[26] is not satisfied. There is no suggestion or motivation to modify the reference or to combine reference teachings because the proposed modification renders Gill

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[26] MPEP 2143 (emphasis added).

being modified unsatisfactory for its intended purpose[27] and the proposed modification or combination of the Gill and Lanier would change the principle of operation of Gill.[28]

Therefore, the Examiner erred in combining Gill and Lanier and rejecting claim 1, and claims 22, 23-24, 30, 41, 42, 52, and 53-54. Each of claims 1, 22, 23-24, 30, 41, 42, 52, and 53-54 are patentable under 35 U.S.C. 103(a) over Gill and Lanier.

B.   Claims 2-8, 25-29, 31-35, 43-47, and 55-59 are each patentable under 35 U.S.C. 103(a) over Gill and Lanier because claims are not obvious in view of prior art references when there is no suggestion or motivation to combine the references because the combination changes the principle of operation of the primary reference and renders the reference inoperable for its intended purpose.

Claim 2 is a representative claim. Claim 2 requires:

2.   The method of claim 1 further comprising:
        receiving a request to manipulate the scene.

Figures 5D-5F of the Application illustrates examples of the scene of Figure 5C, after receiving a request to manipulate the scene. The specification describes "as part of displaying the scene, the user is provided the opportunity to control the view of the scene such as by panning to the left and right, tilting up and down, and zooming in and out."[29] Figure 5D illustrates an example viewable scene that includes a first object, Roman bust 500, integrated with a second object, school room 510, after the field of view of the scene has been changed by zooming in. Figure 5E illustrates an example viewable scene that includes a first object, Roman bust 500, integrated with a second object, school room 510, after the scene has been panned to the left. Figure 5F illustrates an example viewable scene that includes a first object, Roman bust 500, integrated with a second object, school room 510, after the scene has been panned to the right.[30]

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[27] See MPEP 2143.01.V (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

[28] See MPEP 2143.01.VI (citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

[29] Specification, p. 7, lines 27-29.

[30] Specification, p. 12, lines 4-11.

The Examiner rejected claim 2 under 35 U.S.C. 103(a) as being unpatentable over Gill and Lanier. The Examiner stated "Gill, as modified, teach receiving a request to manipulate the scene (allowing the user to edit, manage and manipulate objects on the multimedia presentation) (Gill: column 3, lines 37-44, column 4, lines 35-44 and column 10, 64-67)."[31] In column 3, Gill describes: "This page based document layout system partitions document pages, as defined by the author, into a plurality of objects (also termed boxes and lines), each of which is independently editable by the author."[32]

As stated above, the Examiner erred in modifying Gill and combining Gill with Lanier because the proposed modification renders Gill being modified unsatisfactory for its intended purpose and the proposed modification or combination of the Gill and Lanier would change the principle of operation of Gill. Moreover, considering Gill as a whole, one sees that manipulating document pages in the page based print layout system of Gill is substantially different from manipulating a virtual reality scene, and therefore non-obvious.

Therefore, the Examiner also erred in rejecting claim 2, and 3-8, 25-29, 31-35, 43-47, and 55-59 under 35 U.S.C. 103(a). Claim 2-8, 25-29, 31-35, 43-47, and 55-59 are each patentable under 35 U.S.C. 103(a) over Gill and Lanier.

C.   Claims 10-16 are each patentable under 35 U.S.C. 103(a) over Gill and Lanier because claims are not obvious in view of prior art references when there is no suggestion or motivation to combine the references because the combination changes the principle of operation of the primary reference and renders the reference inoperable for its intended purpose.

Claim 11 is a representative claim. Claim 11 claims:

11.   The method of claim 10 further comprising:
       receiving a request to manipulate the first media object.

The Examiner rejected claim 11 under 35 U.S.C. 103(a) as being unpatentable over Gill and Lanier, stating "Gill, as modified, teach receiving a request to manipulate the first media

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[31] Final Office Action at 5 (February 17, 2006) (emphasis added).

[32] Gill, col. 3, lines 37-40.

object (allowing the user to edit, manage and manipulate objects on the multimedia presentation) (Gill: column 3, lines 37-44, column 4, lines 35-44 and column 10, 64-67)."[33]

As stated above, the Examiner erred in modifying Gill and combining Gill with Lanier because the proposed modification renders Gill being modified unsatisfactory for its intended purpose and the proposed modification or combination of the Gill and Lanier would change the principle of operation of Gill. Moreover, considering Gill as a whole, one sees that manipulating an object in a page in the page based print layout system of Gill is substantially different from manipulating a media object of a virtual reality scene, and therefore non-obvious.

D.   Claims 18-21, 37-40, and 48-51 are each patentable under 35 U.S.C. 103(a) over Gill and Lanier and under 35 U.S.C. 103(a) over Gill and Lanier and Autry because claims are not obvious in view of prior art references when there is no suggestion or motivation to combine the references and because Gill, Lanier, and Autry do not describe all the claim limitations.

Claim 18 is a representative claim. Claim 18 claims:

18.   The method of claim 1 wherein each media object further comprises:
        a soundtrack associated with each media object such that the soundtrack is to be played when the media object is selected by a user.

The Specification describes "a soundtrack may be included with an object such that when an object is activated by a user such as by a mouse click, the soundtrack is played. In one embodiment, when an object in a scene is manipulated by a user, such as by dragging the object via a mouse, the location of the audio associated with the object may be changed to reflect the manipulation and position in the 3D scene. That is, for example, the audio may be rendered to be played from left to center to right as an object is dragged across a scene."[34]

As stated above, the Examiner erred in modifying Gill and combining Gill with Lanier. Therefore, modifying Gill and combining Gill with Lanier, and then with Autry, is also erroneous.

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[33] Final Office Action at 5 (February 17, 2006) (emphasis added).

[34] Specification, p. 5, lines 17-24.

Additionally, the Examiner rejected claim 18, stating "Gill and Lanier fail to explicitly teach playing the soundtrack associated with the media object when a user selects the media object....Autry teaches playing the soundtrack associated with the media object when the media object is selected by a user (playing the soundtrack when the user selects the icon by dragging and dropping the icon on a corresponding program) (Autry: column 16, lines 54-67 through column 17, lines 1-4)."[35] However, Autry does not describe a media object, of claim 1, further comprising a soundtrack associated with the media object such that the soundtrack is to be played when the media object is selected by a user.

Autry is directed towards "remotely controlling a home entertainment system."[36] Autry describes: "FM earphone headsets are provided to enable each person to hear only the sound that is associated with their own window of programming. The sound associated with each program is either assigned to one of several standard FM frequencies and broadcast in low power, much like that in a drive-in movie theater, and each headset is tunable to the frequencies broadcast."[37] Autry describes:

> In FIG. 13, one example is shown, with <u>a standard television like schedule indicated generally at 1310</u>. It <u>comprises a timeline</u> across the top, starting at 8 PM and progressing to midnight. <u>Four channels, A, B, C and D</u> are shown, but many more may be available. <u>Other programs, such as games and word processors</u> which may be selected in standard double mouse click fashion are also shown. Both the time frames and the number of channels shown may be modified by the user enlarging the window using standard Windows based navigation techniques. <u>Multiple cells, or programs are shown on each channel, and are represented as a suffix of the channel letter</u> for discussion herein.[38]

The sections of Autry cited by the Examiner state:

> In FIG. 13, <u>icons E1 and E2 represent remote earphones</u>. The personal computer sound card 320 also contains a multi frequency FM transmitter 646 with antenna 648, and has the capability to generate separate sound tracks for each window being displayed on the monitor. It assigns each to one or more sets of earphones and transmits a local FM signal or broadcast IR or RF which is received and played by the earphones set to the right channel. The earphones have tuning

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[35] Final Office Action at 9 (February 17, 2006).

[36] Autry, col. 1, lines 11-12.

[37] Autry, col. 14, lines 10-16.

[38] Autry, col. 16, lines 9-21 (emphasis added).

circuitry that allows them to be set to a desired channel, or they may be fixed to different frequencies. <u>The user drags the appropriate icon over to the program having the desired sound track,</u> or to the remote that the user is controlling and drops it. If dropped on a program, <u>the sound card transmits the sound for that application on the frequency associated with the earphones which are tuned to that frequency.</u> If it is dropped on a remote control device, the top window associated with that remote has the sound associated with it transmitted.[39]
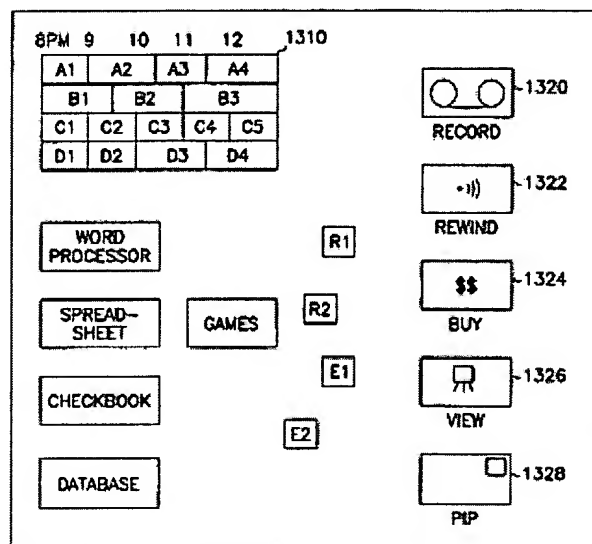
Figure 13 of Autry is reproduced below:

FIG. 13

Accordingly, Autry describes transmitting sound associated with certain programming (e.g., A1 or B1) in a home entertainment system to a specific remote earphone by dragging an icon representing the remote earphones (e.g., E1) over a programming (e.g., A1 or B1).

Neither the icons representing the remote earphones, nor the programming in Autry are media objects that are added to a virtual reality scene. Autry does not describe a media object, that is added a virtual reality scene, further comprising a soundtrack associated with the media object such that the soundtrack is to be played when the media object is selected by a user.

Accordingly, claim 18, and claims 19-21, 37-40, and 48-51, are each patentable over both Gill and Lanier, and also over Gill and Lanier and Autry.

E.   <u>Claims 61-64 are each patentable under 35 U.S.C. 103(a) over Gill and Lanier and under 35 U.S.C. 103(a) over Gill and Lanier and Kopelman because claims are not obvious in</u>

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[39] Autry, col. 16, line 54 to col. 17, line 4 (emphasis added).

view of prior art references when there is no suggestion or motivation to combine the references and because Gill, Lanier, and Kopelman do not describe all the claim limitations.

Claim 61 is a representative claim. Claim 61 claims:

61.   The machine readable medium of claim 53 wherein the series of views is captured by a camera rotated about a subject of the media object.

The specification describes: "Examples of 3D media objects include object movies and OpenGL 3D objects. Object movies are not truly movies and are not truly 3D, but they are an enhanced form of 2D having some 3D properties. Although not truly 3D entities, object movies and other similarly enhanced 2D objects will be referred to as 3D objects and as enhanced 2D objects herein. Object movies are created by photographing or rendering a series of views of the subject at carefully spaced angles of tilt and rotation and assembling the images. In one embodiment, each view of the subject in an object movie is a still image. In another embodiment, one or more views of the subject of an object movie may be a video clip or animation. In one embodiment, an object movie may be created by photographing a series of images of an object as the object is rotated on a platter along different axes. In another embodiment, the series of images comprising an object movie may be captured when rotating a camera from around the object along different axes from a fixed distance."[40]

As stated above, the Examiner erred in modifying Gill and combining Gill with Lanier. Therefore, modifying Gill and combining Gill with Lanier, and then with Kopelman, is also erroneous.

Additionally, in rejecting claim 61, the Examiner stated that "Kopelman further teaches wherein the series of views is captured by a camera rotated about a subject of the media object (cameras moving along a coordinate system surrounding a model object) (Kopelman, column 4, line 62-column 5, line 8)."[41] However, Kopelman does not describe that the series of views, of claim 53, is captured by a camera rotated about a subject of the media object.

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[40] Specification, p. 6, lines 9-21.

[41] Final Office Action at 11 (February 17, 2006).

Kopelman describes that "Viewing the virtual 3D dental model from desired directions and applying other manipulation to said image are possible, by utilizing traditional image manipulation tools, such as the specified AutoCAD. The latter, however, are effectively impractical for use by average orthodonts and other lab personal, who normally lack the adequate computer oriented background required to activate the complicated sequence of operations, in the specified software tool, which will eventually result in bringing the virtual image to the desired orientation."[42] Kopelman describes that it is an important finding of Kopelman that "the orthodont, during normal and daily use, is interested in well defined pre-set views of a virtual 3D dental model for accomplishing orthodontic treatment".[43] Kopelman describes "The GUI of FIG. 2 provides a minimized virtual 3D dental model 11, encircled by a graphic symbol (ring) 12 bearing eight graphic symbols $14_{(1)}$ to $14_{(8)}$ indicative of eight respective preset views of the dental model".[44] The section of Kopelman cited by the Examiner states, "The rotation and elevation operations referred to in FIG. 2, may be represented, for illustrative purposes, as pre-set views that are captured by respective virtual cameras positioned or moving along a coordinate system superimposed on a virtual surface, e.g., a sphere, surrounding and being essentially concentric with the dental model (FIG. 4)."[45]

Accordingly, in Kopelman, to provide average orthodonts and other lab personal, who lack adequate computer oriented background required to activate a complicated sequence of operations in AutoCAD, with the ability to manipulate a 3D dental model, Kopelman describes a GUI that may represent rotation and elevation operations of a dental model as pre-set views captured by virtual cameras.

Kopelman does not describe a series of views, associated with a media object that is added to a virtual reality scene, that is actually captured by a camera rotated about a subject of the media object.

Accordingly, claim 61 and claims 62-64, are each patentable over both Gill and Lanier, and also over Gill and Lanier and Kopelman.

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[42] Kopelman, col. 1, lines 51-63.

[43] Kopelman, col. 2, lines 49-52 (emphasis added).

[44] Kopelman, col. 4, lines 9-13 (emphasis added).

[45] Kopelman, col. 4, lines 62-67 (emphasis added).

VIII. CONCLUSION

For the reasons stated above, claims 1-8, 10-16, 20-35, 39-47, 50-59 and 63-64 are patentable under 35 U.S.C. 103(a) over Gill and Lanier; claims 18-19, 37-38, and 48-49 are patentable under 35 U.S.C. 103(a) over Gill and Lanier, as applied to claims 1, 30 and 42, and further in view of Autry; and claims 61-62 are patentable under 35 U.S.C. 103(a) over Gill and Lanier, as applied to claim 53, and further in view of Kopelman. The Applicant respectfully requests that the Board reverse the rejections if the claims and direct the Examiner to enter a Notice of Allowance for claims 1-8, 10-16, 18-35, 37-59, and 61-64.
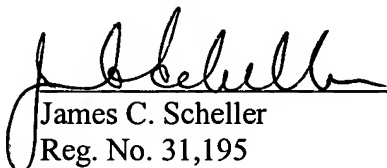
Fee For Filing A Brief In Support Of Appeal

Enclosed is a check in the amount of $500.00 to cover the fee for filing a brief in support of an appeal as required under 37 C.F.R. 1.17(c) and 40.20(b)(2).

Deposit Account Authorization

Authorization is herby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Appellant hereby requests such extension.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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APPENDIX A: CLAIMS

1.   (Previously Presented) A method comprising:

processing a request to create a virtual reality scene, wherein the scene is to be able to be translated and rotated;

processing a request to add at least two media objects to the virtual reality scene, said processing including associating each media object with a series of views of the object from various orientations and locations in three dimensional space;

preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene; and

displaying the scene.

2.   (Original) The method of claim 1 further comprising:

receiving a request to manipulate the scene.

3.   (Original) The method of claim 2 further comprising:

updating the translation vector and rotation matrix for each of the media objects responsive to receiving the request to manipulate the scene.

4.   (Original) The method of claim 2 wherein the request to manipulate is received from an application program.

5.   (Original) The method of claim 2 wherein the request to manipulate originates from a user.

6.   (Original) The method of claim 2 wherein the request to manipulate is one of a pan request, a zoom request, and a tilt request.

7.   (Original) The method of claim 2 further comprising:

calling one or more library functions of a plurality of library functions to manipulate the media objects.

8.   (Previously Presented) The method of claim 7 wherein the library functions are included in an operating system enhancement application program interface.

9.   (Cancelled)

10.   (Original) The method of claim 1 further comprising:

receiving a selection of a first media object of the media objects within the scene.

11.   (Original) The method of claim 10 further comprising:

receiving a request to manipulate the first media object.

12.   (Original) The method of claim 11 further comprising:

updating the translation vector and rotation matrix for the first media object responsive to receiving the request to manipulate the first media object.

13.   (Original) The method of claim 11 wherein the request to manipulate originates from a user.

14.   (Original) The method of claim 11 wherein the request to manipulate is one of a pan request, a zoom request, and a tilt request.

15.   (Original) The method of claim 11 further comprising:

calling one or more library functions of a plurality of library functions to manipulate the media objects.

16.   (Previously Presented) The method of claim 15 wherein the library functions are included in an operating system enhancement application program interface.

17.   (Cancelled)

18.   (Original) The method of claim 1 wherein each media object further comprises:
       a soundtrack associated with each media object such that the soundtrack is to be played when the media object is selected by a user.

19.   (Original) The method of claim 18 wherein the soundtrack is to be played responsively to movement of the associated media object.

20.   (Original) The method of claim 1 further comprising:
       receiving a designation of a soundtrack to be played in conjunction with the displaying of the scene.

21.   (Original) The method of claim 20 wherein the soundtrack is played by calling one or more library functions of a plurality of library functions.

22.   (Original) The method of claim 1 wherein displaying comprises:
       calling one or more library functions of a plurality of library functions to display the media objects.

23.   (Previously Presented) A method of providing an application program interface comprising:
       providing a first function to allow an application program to create a virtual reality scene, wherein the scene is to be able to be translated and rotated;
       providing a second function to allow the application program to add at least two media objects to the scene and to associate each media object with a series of views of the object from various orientations and locations in three dimensional space; and

preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene upon receipt of a request to execute the second function.

24. (Original) The method of claim 23 further comprising:
providing a third function to display the scene and the media objects in the scene; and displaying the scene responsive to receiving a request to execute the third function.

25. (Original) The method of claim 24 further comprising:
receiving a request from a user to manipulate the scene.

26. (Original) The method of claim 25 further comprising:
updating the translation vector and rotation matrix for each of the media objects responsive to receiving the request to manipulate the scene.

27. (Original) The method of claim 25 wherein the request to manipulate is one of a pan request, a zoom request, and a tilt request.

28. (Original) The method of claim 25 further comprising:
calling one or more library functions of a plurality of library functions to manipulate the media objects.

29. (Previously Presented) The method of claim 28 wherein the library functions are included in an operating system enhancement application program interface.

30. (Previously Presented) A system comprising:

means for processing a request to create a virtual reality scene, wherein the scene is to be able to be translated and rotated;

means for processing a request to add at least two media objects to the scene, said processing including associating each media object with a series of views of the object from various orientations and locations in three dimensional space;

means for preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene; and

means for displaying the scene.

31. (Original) The system of claim 30 further comprising:

means for receiving from a user a request to manipulate the scene.

32. (Previously Presented) The system of claim 31 further comprising:

means for updating the translation vector and rotation matrix for each of the media objects responsive to the means for receiving from the user the request to manipulate the scene.

33. (Original) The system of claim 31 wherein the request to manipulate is one of a pan request, a zoom request, and a tilt request, and the system further comprises:

means for panning;

means for zooming; and

means for tilting.

34. (Original) The system of claim 31 further comprising:

means for calling one or more library functions of a plurality of library functions to manipulate the media objects.

35. (Previously Presented) The system of claim 34 wherein the library functions are included in an operating system enhancement application program interface.

36.   (Cancelled)

37.   (Original) The system of claim 30 wherein each media object further comprises:
        a soundtrack associated with each media object such that the soundtrack is to be played when the media object is selected by a user.

38.   (Previously Presented) The system of claim 37 further comprising:
        means for playing the soundtrack responsively to movement of the associated media object.

39.   (Original) The system of claim 30 further comprising:
        means for receiving a designation of a soundtrack to be played in conjunction with the displaying of the scene.

40.   (Original) The system of claim 39 further comprising:
        means for calling one or more library functions of a plurality of library functions to play the soundtrack.

41.   (Original) The system of claim 30 wherein displaying comprises:
        means for calling one or more library functions of a plurality of library functions to display the media objects.

42.   (Previously Presented) A machine readable medium storing instructions which when executed by a processor cause the processor to perform operations comprising:
        processing a request to create a virtual reality scene, wherein the scene is to be able to be translated and rotated;
        processing a request to add at least two media objects to the scene, said processing including associating each media object with a series of views of the object from various orientations and locations in three dimensional space;

preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene; and

displaying the scene.

43. (Previously Presented) The machine readable medium of claim 42 storing further instructions which when executed cause the processor to perform operations further comprising:

receiving from a user a request to manipulate the scene.

44. (Previously Presented) The machine readable medium of claim 43 storing further instructions which when executed cause the processor to perform operations further comprising:

updating the translation vector and rotation matrix for each of the media objects responsive to receiving the request to manipulate the scene.

45. (Original) The machine readable medium of claim 43 wherein the request to manipulate is one of a pan request, a zoom request, and a tilt request.

46. (Previously Presented) The machine readable medium of claim 43 storing further instructions which when executed cause the processor to perform operations further comprising:

calling one or more library functions of a plurality of library functions to manipulate the media objects.

47. (Previously Presented) The machine readable medium of claim 46 wherein the library functions are included in an operating system enhancement application program interface.

48. (Original) The machine readable medium of claim 42 wherein each media object further comprises:

a soundtrack associated with each media object such that the soundtrack is to be played when the media object is selected by a user.

49.   (Original) The machine readable medium of claim 48 wherein the soundtrack is to be played responsively to movement of the associated media object.

50.   (Previously Presented) The machine readable medium of claim 42 storing further instructions which when executed cause the processor to perform operations further comprising:

receiving a designation of a soundtrack to be played in conjunction with the displaying of the scene.

51.   (Previously Presented) The machine readable medium of claim 50 wherein the soundtrack is to be played by calling one or more library functions of a plurality of library functions.

52.   (Original) The machine readable medium of claim 42 wherein the displaying comprises:

calling one or more library functions of a plurality of library functions to display the media objects.

53.   (Previously Presented) A machine readable medium storing instructions which when executed by a processor cause the processor to perform operations comprising:

providing an application program interface comprising:

providing a first function to allow the application program to create a virtual reality scene, wherein the scene is able to be translated and rotated;

providing a second function to allow the application program to add at least two media objects to the scene and to associate each media object with a series of views of the object from various orientations and locations in three dimensional space; and

preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene upon receipt of a request to execute the second function.

54.   (Previously Presented) The machine readable medium of claim 53 storing further instructions which when executed cause the processor to perform operations further comprising:

   providing a third function to display the scene and the media objects in the scene; and

   displaying the scene responsive to receiving a request to execute the third function.

55.   (Previously Presented) The machine readable medium of claim 54 storing further instructions which when executed cause the processor to perform operations further comprising:

   receiving a request from a user to manipulate the scene.

56.   (Previously Presented) The machine readable medium of claim 55 storing further instructions which when executed cause the processor to perform operations further comprising:

   updating the translation vector and rotation matrix for each of the media objects responsive to receiving the request to manipulate the scene.

57.   (Original) The machine readable medium of claim 55 wherein the request to manipulate is one of a pan request, a zoom request, and a tilt request.

58.   (Previously Presented) The machine readable medium of claim 55 storing further instructions which when executed cause the processor to perform operations further comprising:

   calling one or more library functions of a plurality of library functions to manipulate the media objects.

59.   (Previously Presented) The machine readable medium of claim 58 wherein the library functions are included in an operating system enhancement application program interface.

60.   (Cancelled)

61.   (Previously Presented) The machine readable medium of claim 53 wherein the series of views is captured by a camera rotated about a subject of the media object.

62.   (Previously Presented) The machine readable medium of claim 53 wherein the series of views is captured by a camera directed at a rotated subject of the media object.

63.   (Previously Presented) The machine readable medium of claim 53 wherein the series of views is determined algorithmically when the media object is added to the virtual reality scene.

64.   (Previously Presented) The machine readable medium of claim 55 wherein the operations further comprise, in response to a request to navigate within the virtual reality scene, replacing a displayed view of the media object in the scene with a different view in the series of views based on the translation vector and rotation matrix to reorient and relocate the object to match the navigation.

APPENDIX B: EVIDENCE

NONE

Inventors: Xiaochun Nie, et al.
Application No.: 10/022,151

- 30/31-

Atty. Dkt. 4860P2643
Art Unit: 2173

APPENDIX C: RELATED PROCEEDINGS

NONE

Inventors: Xiaochun Nie, et al.
Application No.: 10/022,151

- 31/31-

Atty. Dkt. 4860P2643
Art Unit: 2173